

History of Pharmacy in India – Pharmacy Practice. Harkishan Singh. Vallabh Prakashan, SU-221 Pitampura, Delhi 110 088. 2002. Vol. 3. 226 pp. Price: Rs 450.

Writing of history by a scientist is rare. Harkishan Singh, a noted, devoted and reputed pharmacist of the country has done a marvellous job of publishing three volumes on *History of Pharmacy in India*. Like the first two volumes, this volume on pharmacy practice has been well written and documented (with 43 illustrations) after thorough research (the author has given 908 references and notes as bibliography).

The book consists of 12 chapters that run into 226 pages along with an extensive index. The first two chapters give an overall history of the emergence of practice of pharmacy in India. As rightly pointed out in these chapters, current pharmacy practice is based on the Western medical system which started as a part of Military Service and in the lines of the Pharmaceutical Society of Great Britain.

Chapters 3 to 8 provide an interesting view of the profession of pharmacy; transformations from the job of apothecary, compounder, chemist, druggist and assistant to medical staff in a hospital. These transformations have been well-associated with chapters in the policies of drug trade, how various British-period pharmacies came into existence and the emergence of various associations and organizations such as the Pharmaceutical Society of India, The Pharmaceutical Association, etc. There is also a mention about the educational policies and legislative changes that have taken place to maintain the standards in practice of pharmacy in the country. Several illustrations have been given about great personalities involved and old British-period pharmacies.

History pertaining to foreign trade, including export of opium, cinchona and nux vomika from India, and import of various proprietary and patent medicines is worth reading.

The last four chapters deal with pharmacy ethics, code of pharmaceutical conduct, practice of pharmacy in hospitals and rural areas. The book has focused on the history of pharmacy practice as related to dispensing and drug

trade. In the area of pharmaceutical manufacturing India has done extremely well. This aspect has not been touched to a large extent.

Besides giving an in-depth account of the history on pharmacy practice, various statements mentioned in the book are thought-provoking. Some of them are as follows:

‘British were successful in successfully introducing and developing the Western Medical System but ignored the pharmaceutical sector.’

(Probably it is still an ignored sector for the Government of India!)

‘The start of an organized pharmacy profession in India is over a century behind the introduction and consolidation of the Western Medical Profession.’

(Implementation of the section 42 of the Pharmacy Act of 1948 after 36 years, i.e. 1984 spells out this truth, and how long it will take to get the profession of pharmacy from industry orientation to clinical orientation is still a big question.)

All pharmacists must read the book. One should seriously consider the realities that have been mentioned, to uplift the profession of pharmacy to a standard that one can take pride of at the International level.

RAMESH K. GOYAL

*L. M. College of Pharmacy,
P.O. Box 4011,
Navrangpura,
Ahmedabad 380 009, India
e-mail: goyalak@hotmail.com*

Biophysical Processes in Living Systems. P. Pardha Saradhi. Oxford and IBH Publishing Co Pvt Ltd, 66, Janpath, New Delhi 110 001. 2001. 369 pp. Price: Rs 850.

This is an interesting book, dealing with the major biophysical processes associated with the structural and functional aspects in living systems. Interaction and importance of macromolecules, water

and organelle, etc. in living systems form the core of biophysics, and to understand and comprehend all these in one book is quite a laudable task.

The book contains 20 chapters, covering various aspects starting from the first chapter, dealing with the role of reverse micelles in biological systems. Reverse micelles or water in oil microemulsions are formed with natural or synthetic surfactants with or without co-surfactant. A large number of enzymes are found to be active in reverse micelles where they arrange themselves in the internal water space of the micelle. Reverse micelles have a great potential in biotechnology because they provide an environment for the bioconversion of polar and apolar compounds used in organic synthesis, micro-particle synthesis and luminescence. A good feature of this chapter is that it contains several illustrative diagrams and spectra.

The second and third chapters centre around DNA replication and DNA reactive ligands. Molecular and biophysical events necessary for both have been considered in detail, but the author has omitted stereochemistry and aspects regarding the protein as a reactive ligand to the DNA. The protein is a very prominent reactive ligand and the DNA-protein interaction should have been included.

The next four chapters deal with the ionic interaction, folding, catalysis and immobilization of proteins. Although much of this is standard text book material, the precision of material and its presentation are good. Most of the studies described in these chapters owe their success to the good consideration of both the theoretical and practical approach of the author.

Subsequent chapters are mainly concerned with the transport and signalling across the membrane. Molecular mechanism of transport of metabolites across the membrane has always been an intriguing problem for scientists. The mechanism which utilizes the free energy of ATP for the active transport is still unclear and the author's effort to correlate the mechanism with H⁺ATPase for the proposal of a suitable model is laudable. We need some more similar ATPase to put forth a solid proposal for the molecular mechanism of active transport.

Light plays an important role in plant growth and development. Phytochromes,